

## ABSTRACT OF THE DISCLOSURE

Adaptive control techniques, such as power management techniques for use in managing power consumption in an electronic device, employ optimization analysis to generate power consumption/quality of service performance plots. The optimization analysis can include experiments that are performed for various settings of control factors that control the operation of the device. The performance plots relate power consumption in the device to quality of service levels for the device. During operation, aspects of the device are monitored. A control factor and a level for the control factor are automatically selected based on the monitored aspects, by using the performance plots to identify an experiment having the desired quality of service level and the corresponding control factor level. The control factor is then automatically set to that selected level to control the power consumption or quality of service of the device.